

## SMALL MAGNETO EXCHANGE INSTALLATION

This E.I. describes methods for installing miscellaneous equipment in small magneto exchanges.

### 1. GENERAL.

- 1.1 In small country magneto exchanges it has been the practice to mount equipment such as transformers, party line bells, patching facilities and subcycle ringers on walls. This led to many unstandard methods being used in the fitting and wiring of equipment. Manhour requirements for such installations are excessive because of the amount of preparatory work which must be done on the site.
- 1.2 The procedure in this E.I. aims at overcoming the untidy layouts and the high manhour charges resulting from the older methods; it involves the use of panel mounted equipment on standard 1'8½" x 8'6" or 10'6" carrier type racks.
- 1.3 Use of the 1'8½" rack is desirable because it:-
  - (i) occupies little space,
  - (ii) enables long line equipment panels to be mounted on the telephone equipment racks, or vice versa,
  - (iii) is light and easy to erect.
- 1.4 Two rack heights are standardised:-
  - (i) 8'6" where long line equipment racks are not to be installed. This rack height fulfills the requirements where limited ceiling heights apply;
  - (ii) 10'6" long line equipment racks are to be installed in the same area.  
(See Figs. 1-3.)

### 2. PROCEDURE.

- 2.1 Before the installation of equipment at a small country exchange, either -
  - (i) an engineering inspection should be made, or
  - (ii) the local Technician should complete a pro forma supplied by the Engineer.Note must be made of the apparatus in situ and any information likely to be useful in the assembly of rack components included.
- 2.2 The Engineer must then prepare appropriation sheets allocating positions for each panel of equipment to the ultimate capacity of the rack.
- 2.3 The racks and panels must be wired in a departmental workshop, packed to exclude dust, and transported complete to the installation site. This results in a considerable saving in manhours.
- 2.4 Details of the positioning of the racks must be sent to the installing Technician.
- 2.5 The installation on the site should normally be restricted to:-
  - (i) Re-routing of underground plant to the rack M.D.F..
  - (ii) Interconnecting between racks.
  - (iii) Cabling between racks and switchboards.

INTERNAL PLANT INSTALLATION  
Practice  
A 6010

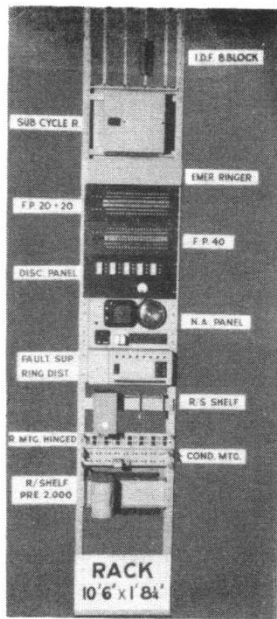


FIG. 1. STANDARD 10'6" RACK.

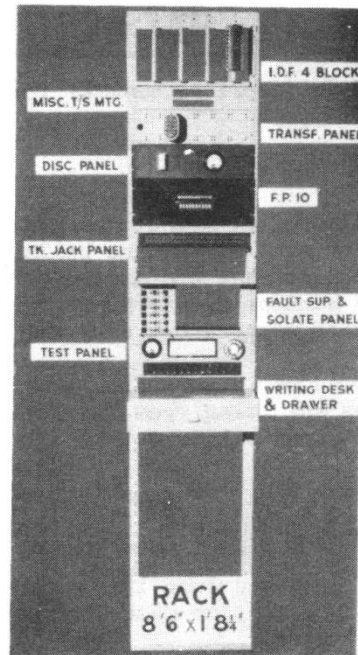
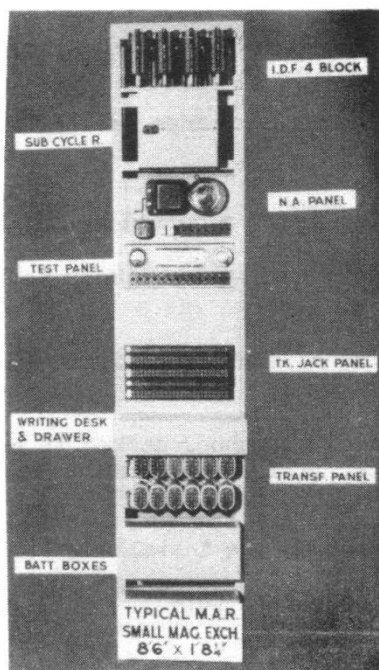
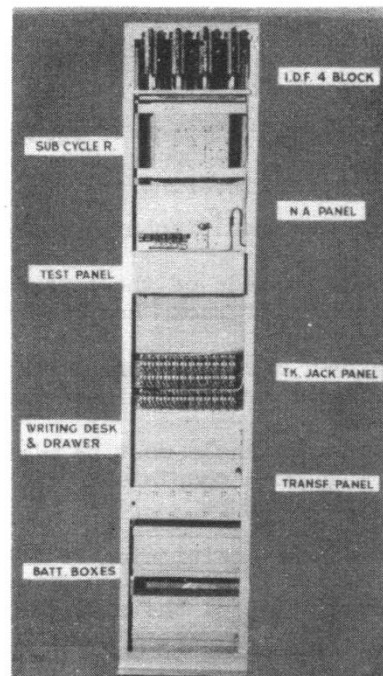


FIG. 2. STANDARD 8'6" RACK.



(a) Front.



(b) Rear.

FIG. 3. STANDARD 8'6" M.A.R.

3. M.D.F.

3.1 Rack mounted Main Distribution Frsmes of the type shown in Fig. 4 must be used. Up to five M.D.F. racks can be mounted side by side giving an ultimate capacity of 3000 lines. At the join between M.D.F. racks one channel iron upright is removed and the racks joined together by fishplates.

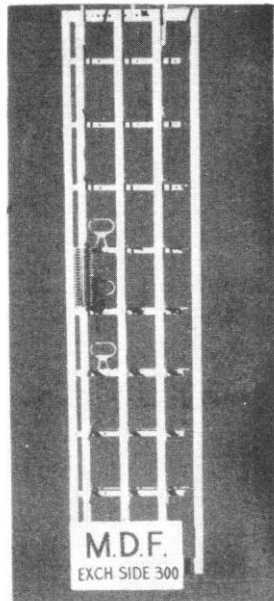
4. STANDARD FITTINGS.

4.1 Racks. A wiring form is initially provided to the ultimate capacity of the rack. This is taken to the rack I.D.F. mounted at the top of the rack. Rack I.D.Fs. can be single or double sided. Where double sided I.D.Fs. are provided, usually on 10'6" racks, the panels are wired to one side and the incoming cables to the other. This arrangement facilitates jumpering.

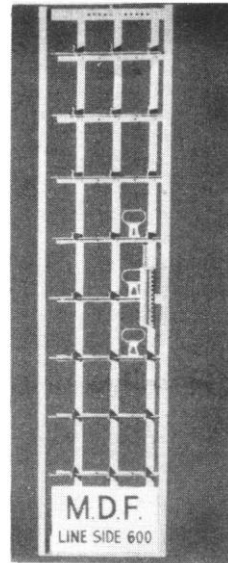
The I.D.F. appropriation is prepared to allow for the maximum number of wires being required at each panel.

4.2 Panels. Standard units are prepared; some are shown in the following figures. These include :-

A.C. Power Supply Panel	..	Fig. 5.
Battery Box Panel	.. ..	Fig. 3.
Condenser Mounting	.. ..	Fig. 1.
Emergency Ringer (Pole Changer Type)		Fig. 1.
Fault Supervisory and Isolate Panel		Fig. 2.
Fault Supervisory Ring Distribution		Fig. 1.
Fuse Panel 10	.. ..	Fig. 2.
Fuse Panel 20 + 20	.. ..	Fig. 1.
Fuse Panel 40	.. ..	Fig. 1.
I.D.F. Panel	.. ..	Fig. 1, 2, 3.
Main Discharge Panel (Disc. Panel)		Fig. 1, 2.
Miscellaneous (T/S) Terminal Strip Mounting		Fig. 2.
Night Alarm Panel	.. ..	Fig. 1, 3.
Party Line Bell Panel	..	Not Illustrated.
Relay Set Shelf	.. ..	Fig. 1.
Relay Mounting (Hinged)	..	Fig. 1.
Relay Shelf (Pre-2000)	..	Fig. 1.
Subcycle Ringer	.. ..	Fig. 1, 3.
Test Panel	.. ..	Fig. 2, 3.
Transformer Panel (These can be single or double sided, mounting 6 or 12 transformers respectively.)	..	Fig. 2, 3.
Trunk Jack Panel	.. ..	Fig. 2, 3.
Writing Desk Drawer	.. ..	Fig. 2, 3.



(a) Equipment Side.



(b) Line Side.

FIG. 4. STANDARD M.D.F..

NOTE: Only one fitting of each type is shown.

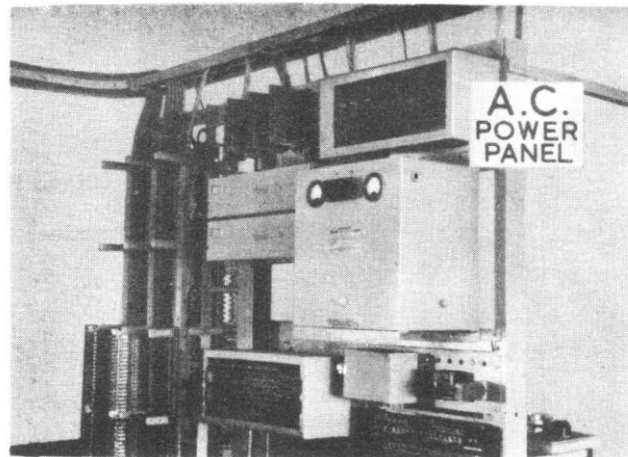
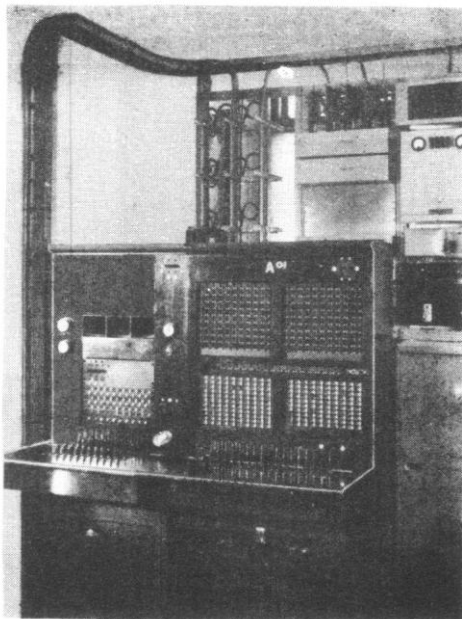


FIG. 5. TYPICAL INSTALLATION.

Note: A.C. Power Panel Rack Mounted.

**END.**